Art. VII.—*Surgical Cases—Extraction of Foreign Bodies.* By Jno. Fred. May, M.D., Prof. Surgery in the National Medical College, and one of the Surgeons to the Washington Infirmary.

Case I.—*Large Calculus—Lithotomy—Bilateral Operation with the Double Lithotome of Dupuytren.*—George H., aged 18, entered the Washington Infirmary for stone in the bladder. He has for many years been labouring under all the symptoms of stone, but has never been sounded for it. He is unable to pass his urine except by placing himself horizontally across a chair. On sounding him, a few days after his entrance, a calculus was at once detected, and, from several subsequent examinations, I believed the stone to be so large that I did not deem his case a favourable one for lithotrity. I therefore decided to cut him, and, on the 15th of April, performed the bilateral section before the medical class in the following way:—

The patient having been etherized and placed in the usual position, a deeply-grooved staff was introduced into the bladder and pressed firmly against the perineum, as near as possible in the median line. A crescentic incision was then made over the staff, which, commencing on the right side at a point equidistant from the anus and the tuberosity of the ischium, was terminated at a similar point on the opposite side, the centre of the curve being near three-fourths of an inch above the anus. The incision was, by a few strokes of the scalpel, deepened, the fascia and perineal muscles divided, and the membranous portion of the urethra exposed, which was then opened upon the groove of the staff longitudinally, and to a sufficient degree to admit the beak of the double lithotome of Dupuytren, which, being fairly placed in the groove, was introduced upon it into the bladder. The stone being felt with the end of the lithotome, the staff was extracted, and the instrument being reversed, the blades were sprung to No. 18 on the graduated scale, and it was withdrawn from the bladder, thus dividing the prostate equally, on both sides nine lines.

The calculus was then readily seized with the forceps, but, finding that from its size it would not pass through the incision that had been made in the prostate, the forceps were extracted, the lithotome again introduced, and the gland further divided by the blades being sprung to their maximum point of twenty-one lines. The stone was then seized with curved forceps, and extracted entire with not more than the usual force required in the extraction of a calculus of medium size by the lateral operation.

The following were its dimensions: Longest diameter, *two inches within a fraction;* shortest diameter, *one and five-eighths of an inch;* circumference, *five and five-eighths inches.* It was hard, being a triple phosphate, and round. The patient recovered from the operation in about the usual time, and, being sufficiently strong to travel, left for his home in Virginia in about two months after the operation was performed.

I have given the details of this operation, because I think it tends to sustain the superiority of the bilateral section for the extraction of large calculi; for I am convinced that the stone in this case could not have been extracted by the lateral operation without prolonging the incision further beyond the limits of the prostate and upon the neck of the bladder than would have been safe for the patient. For a stone less in size, I have seen the high operation resorted to in the wards of Civiale.

Within the last twelve years, the bilateral section for the stone has attracted a good deal of attention from American surgeons, and I believe some of the most distinguished, after having fairly tested it, are its advocates at the present time. Its great merit, which I have already alluded to, that it permits the extraction of large calculi with greater facility and with less danger than any other method of perineal lithotomy, I think few can doubt when they consider attentively the anatomy and dimensions of the parts which are concerned in the operation for the stone.

I believe it is generally admitted, at the present day, that one of the great points of safety in perineal lithotomy is the avoidance of injury to the middle perineal fascia, or that layer which is reflected from the prostate gland upon the rectum, and hence that it is most desirable not to incise beyond the limits of the gland. The division of this fascia beyond the gland unquestionably favours urinary extravasation, and, consequently, its frequent attendant of sloughing abscesses between the bladder and rectum. Scarpa, indeed, was so thoroughly convinced of the importance of not injuring the prostatic fascia, that he thought the limits of the gland ought never to be passed with the knife, and that a calculus of more than sixteen lines ought never to be extracted by the perineum entire. It is true that others, disregarding the gland, have advised the free incision of the neck of the bladder when necessary; but, although this free incision may be necessary in the lateral operation, if the calculus is large, I presume that even its advocates will hardly contend that it is equally safe. No one, I think, can do so who properly appreciates the value of fascial expansions in warding off and thus protecting parts which lie beyond them from the well-known effects of extravasated fluids and secretions. Velpeau, in his remarks on lithotomy in his great work on operative surgery, supervised by Prof. Mott, in alluding to this point, observes:—

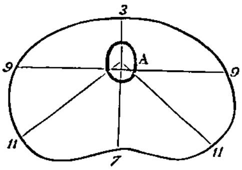
> "Delpêch also thinks that there is less danger in dilating, or even lacerating, the neck of the bladder than in incising it extensively, and that in this respect Lecat's rule ought to be retained as a law. There is under this precept an important truth, which could not be perfectly appreciated until in these latter times, because the anatomical fact connected with it had not been clearly indicated. It is this: *That lithotomy, confined within the limits of the prostate, is infinitely less dangerous than in that in which the incisions are extended beyond this gland.*"

If it is, then, true that it is all-important, for the reasons that have been mentioned, not to incise beyond the borders of the prostate gland, the superiority and safety of the bilateral section is apparent.

The following diagram of the several diameters of the prostate, from the urethra as the starting-point, will at once show the difference in the extent of the incisions through the gland made in the lateral and bilateral methods.

The measurement is that of M. Senn, of Geneva, and gives the average size of the gland in a healthy state in the adult. In old men and children there is, of course, a considerable variation from it. The anterior face of the gland is considered.

It will thus be seen that, from the urethra A to the periphery of the gland, the dimensions are as follows: Transverse diameter nine lines; oblique diameter ten to eleven lines; inferior vertical diameter seven lines; superior vertical diameter three lines. The oblique diameter, the greatest, is the one divided in the lateral operation. This is eleven lines, or one line less than an inch. Add to this the dimensions of the urethra, about four lines, and this section will give us but fifteen lines. Now, it is very certain that a calculus of over sixteen lines in its shortest diameter could scarcely be extracted through this opening without either tearing or incising beyond the limits of the gland, for, although something must be allowed for the stretching and yielding of the parts, yet this is fully counterbalanced by the increased volume which the blades of the forceps would add in grasping the stone. The surgeon, therefore, is obliged either to tear the parts by main force, or to incise them freely beyond the prostate.



Now, in the bilateral division of the gland in which both the oblique diameters are incised, we have, allowing four lines for the urethra, a section of twenty-six lines; and if to this we allow for the stretching of the curve, approaching as it does towards a straight line during the passage of the calculus, it is evident that it will permit, without great difficulty, the passage of a stone of two inches in its short diameter, leaving, at the same time, intact the parts beyond the gland. None of the methods of perineal lithotomy can, therefore, in its *free* and *safe* incision, be compared with the bilateral operation, permitting, as it does, the passage of a calculus of two inches in diameter and six inches in circumference without causing any laceration.

In speaking of this operation, Velpeau remarks that "a calculus of twenty to twenty-four lines in thickness, and from five to six inches in circumference might, *strictly* speaking, pass through the opening without causing any laceration." If the stone be larger than this, it had better either be broken, if possible, through the wound, or extracted by the high operation. There are surgeons who prefer performing the bilateral section with a common scalpel, for the purpose of simplifying the operation, and from the belief also that the incision through the gland does not correspond to the expansion given to the blades of the lithotome, from the yielding of the latter on account of their length and slenderness. I do not think the last objection to be correct. If the instrument is made properly, and the blades are well and firmly articulated and sharp, I have not been able to discover any such defect. The operation can, no doubt, be very well performed with the common scalpel or bistoury, and if the lithotome of Dupuytren did not possess positive advantages over it, it ought to be preferred upon the ground of being the more simple instrument. But the lithotome, as Velpeau remarks, renders the parts more tense as it divides them, gives greater regularity to the wound, terminates the operation with a single cut, and especially makes "an actual curved, instead of a simple V incision, which latter is the only one which can reasonably be expected, if we use the bistoury or other lithotomes." It is an instrument, moreover, that can be safely used at all ages, as the blades can be sprung by the graduated scale on the handle from four to ten and a half lines on each side. I first used the double lithotome in 1842, and then on a child of three and a half years. The blades were set to four lines each, thus making an incision of eight lines through the prostate, and through this, with a pair of ordinary polypus forceps, I extracted a calculus one inch in its long, and five-eighths of an inch in its short diameter (about as large as a common-sized almond in the shell) without the wound being even stretched by its passage. The child did not lose over ℥i of blood, and the recovery was very rapid, the wound being nearly closed in two weeks after the operation was performed; a fact which goes far to disprove the assertion made by some, that cicatrization is much slower after the bilateral than the lateral section.

There are, moreover, other reasons, besides those already mentioned, which, it appears to me, render this operation safer in many respects than the lateral method, and which I, therefore, think should cause it to be adopted, not only specially, for the removal of large calculi, but also as a general method.

In the first place, there are fewer vessels divided by it, and the bulb of the urethra is not touched, for the incision is made between the anus and the bulb, and the latter with its transverse artery can be always avoided. In the lateral operation, from the position and extent of the incision, I do not see how the bulb and artery can well escape, notwithstanding the directions in the books. Without attaching to their division great importance, it is yet undoubtedly preferable to avoid them when it can be done. If the double lithotome is used, the pudic artery cannot by any possibility, except anomalous distribution, be reached. Even the superficial artery, when in its usual position, is not usually divided; so that the operator is incomparably less incommoded by hemorrhage, as the posterior branches of the transverse, and the anterior twigs of the hemorrhoidal artery are really the only arteries that are usually divided. Again, as the lithotome cuts *outwards* and backwards, there is less danger to the rectum. Indeed, I do not see how the intestine can be injured, unless it should be greatly distended from neglect, prior to the operation; and, lastly, the ejaculatory ducts and vesiculæ seminales are not exposed to risk, for it will be recollected that the membranous portion of the urethra is first opened, and then the blades of the lithotome are sprung. Their obliquity *outwards*, from this point, is such that the ducts cannot be injured, while, the blades not passing the limits of the prostate, the vesiculæ cannot be reached.

CASE II.—*Lithotomy—a Metallic Penholder embedded in an enormous Stone in the Bladder.*—A few days previous to the operation just mentioned, I was requested by a physician in a neighbouring town to visit a young girl, of fourteen years of age, whom he feared had a calculus in the bladder. The suspicion of the existence of a calculus was very recent (but a few days before my visit), for although her health had been declining for more than a year, and her sufferings had been very great, she had studiously endeavoured to conceal from her friends her condition as long as it was in her power. I found her in a state of extreme emaciation, anemic, and with a pulse constantly ranging to one hundred and twenty and upwards. She had a very frequent desire to evacuate the bladder, attended with great spasmodic suffering. The discharge from the bladder was of a most offensive nature, and seemed to be an admixture of urine, blood, and pus, the latter of which appeared to predominate over the natural secretion. She was unable to get any sleep at night, except by the influence of opiates most freely administered.

On examining the bladder with a female catheter, I found that the instrument would penetrate only to a very short distance, as it came in contact with a calculus as soon as it passed through the urethra, and, on introducing my finger into the vagina, I found the entire fundus of the bladder was filled by the stone. It appeared, in fact, to occupy the whole bladder, which was contracted closely around it.

Although her case seemed to be almost hopeless, nothing could be done but to remove the cause of her great suffering. I accordingly incised the urethra on each side, and to a sufficient degree to enable me to pass into the bladder a pair of strong crushing forceps, with which I hoped to be able to break down the stone. Upon introducing my finger, after incising the urethra, and in the endeavour to insert it between the stone and the side of the bladder, I felt a substance with a sharp edge projecting from it. She had, some time previous to the operation, stated that she had *swallowed* a brass penholder, and that it was in her bladder. This object I could now distinctly feel, embedded in the centre of a calculus, which filled the bladder so closely that it was with much difficulty I could pass my finger between it and the walls of the viscus. The metallic holder was fixed in a transverse position. After several efforts, I succeeded in bringing one of its ends towards the opening in the urethra. And then, after much difficulty, with stout polypus forceps, in loosening and finally extracting it from the stone. It was of brass, and a little more than three inches in length, and about a quarter of an inch thick.

The stone appeared to be broken into several fragments by the extraction of the brass tube from it, which also was completely flattened anteriorly, where it was grasped by the forceps. The fragments were even still further crushed, and a large portion of them removed from the bladder; and an opiate was then administered. She continued to pass, for the two succeeding days, further portions of the calculus in small pieces, and in powder; and, for several days, her condition seemed to be improving, but the discharge of pus from the bladder still continued; and, though her suffering was much less, she gradually declined, and died in about two weeks after the operation from the extensive disorganization and ulceration which the bladder had undergone.

I very much regret that I could not obtain permission to examine the diseased organ. The stone, as well as I could judge by the examination which I made of it in the bladder, filled up the organ so closely that its function as a receptacle for the urine was entirely destroyed, the fluid merely trickling over it from the ureters, and then dribbling off by the urethra. Whether she had introduced the penholder before the existence of the calculus, and it had then become the nucleus for its formation, or whether it had been used by her to relieve herself in urinating while the calculus was small, and it had then accidentally slipped into the bladder, is a point upon which I am ignorant.

CASE III.—*Laryngotomy—Foreign Body in the Larynx—Its Removal the day after the Operation.*—On the 20th of May, I was desired to see a child five years of age, in Georgetown, for the purpose of extracting a grain of coffee, supposed to have entered the wind-pipe. On the 14th, while running about the room, he was suddenly attacked with a very severe fit of spasmodic cough, and he at once told his father that he had *swallowed* the coffee, which, a few minutes before, had been seen in his mouth. The cough, I was told, was soon followed by difficult respiration, which at times, though very distressing, was succeeded by such intervals of calm and quiet breathing, and moderation in the urgency of all the symptoms, that the physicians who had previously seen the child thought that the foreign substance might have been expelled in the efforts of coughing; at the period of my visit, however, six days after the accident, the symptoms had so increased in severity that it was very evident to all the little patient could not long survive unless he obtained speedy relief. The dyspnœa was extreme, the mother being obliged to hold him up constantly in her lap to assuage it, and he had scarcely slept at all for forty-eight hours.

Throughout the lungs and trachea there was a strong mucous rhonchus, the lips and neck were livid, and there was continually a frothy discharge from the mouth. The superior lobes of the lungs, at every inspiration, projected much above the clavicle. The external jugular veins were greatly distended, and the inferior extremities were cold up to the knees, although they had been repeatedly placed in hot mustard baths.

It was, in fact, plain that effusion must soon take place; I therefore lost no time in opening the larynx.

An incision was commenced near the os hyoides and extended downwards about an inch and a half. The sterno-hyoid and thyroid muscles were separated, and the hemorrhage, which, from the congestion of the parts, was freer than I anticipated, was arrested by compression with a sponge for a few minutes.

The crico-thyroid ligament and the cricoid cartilage were then divided, and the incision was also carried slightly upwards into the thyroid, making in all an opening of about half an inch. As soon as this was done, a large quantity of yellow mucus was ejected through it by a sudden attack of the cough. It was so considerable, and it so much resembled pus at the first glance, that one of the gentlemen present thought an abscess had been opened. This, however, soon ceased, and the little patient was breathing through the wound as quietly as possible; the lips became red, and in a few minutes after the operation he fell asleep upon the table, the most perfect relief being afforded by the opening in the larynx. The foreign body could not, however, be discovered; but the moment the wound was closed with the fingers, the difficult respiration and the cough instantly returned as violent as before. I was satisfied that it was either lodged in one of the laryngeal pouches or about the rima glottidis.

A probe curved, and wrapped with a soft piece of linen, was repeatedly passed to the upper part of the larynx with the hope of detaching the foreign body, but without success; and, finding that considerable irritation was produced by such efforts, I determined to leave the wound open until the next morning, in the hope that it might be expelled in the interval.[*] At my visit the next day, I found the child perfectly comfortable and surrounded with his playthings. He had slept quietly all night, and was still breathing calmly through the wound; but, on closing the opening with the finger, the dyspnœa and cough, in all their violence, instantly returned.

On my return home the previous evening, I prepared a small whalebone probang, the sponge of which was calculated to fit the larynx rather closely, and thus to force anything it might encounter past the epiglottis. This I now introduced through the wound and forced it upwards until, by looking in the mouth, I saw it pass the epiglottis. This was again repeated, and the instrument extracted. I now found I could close the wound perfectly without any recurrence of the cough or the least embarrassment in the respiration. I therefore brought the edges of it closely together by means of a single suture and adhesive plaster, and the little patient continued to breath calmly by the natural passage. Two leeches were directed to be placed on each side of the larynx; and being perfectly satisfied that the obstacle had been dislodged by the probang, and had fallen back into the pharynx and had been swallowed, I ordered a tablespoonful of castor oil to be given, and requested that the evacuations produced by it should be carefully examined.

This opinion proved to be correct, for the grain of coffee was found entire in the first discharge caused by the purgative. The wound granulated and cicatrized kindly, notwithstanding the manipulations to which it had been exposed; and the child was soon about and well, with the exception of a hoarseness and roughness in the voice, which continued several weeks and then gradually subsided.

When foreign bodies are lodged in the larynx, above the opening which has been made for their removal, it is recommended that curved forceps and bent probes or scoops should be introduced for the purpose of seizing and extracting them. When the substance is large and easily felt, these instruments no doubt may be used with advantage; but if it is small and fixed between the vocal cords, or partially in the rima glottidis, or in the laryngeal pouches, I should think this mode of proceeding must be generally difficult and uncertain. I found it impossible to succeed in this way, and after several trials, and the only result being an increase of irritation, I desisted and used the probang the next day, as already stated. I do not recollect to have seen any account of a foreign body having been removed in the same way from the larynx, though I should think a like proceeding would naturally suggest itself to the surgeon under similar circumstances.

CASE IV.—*Tracheotomy—Foreign Body in the Trachea.*—Mr. S., of Montgomery County, Maryland, requested me to visit his child at his residence, about twenty miles from Washington, for the purpose of removing a grain of corn which it was believed had fallen into the trachea.

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[*] M. Velpeau (New Elements of Operative Surgery, article Bronchotomy) observes, "It is remarked in this and all other cases, that the upper parts of the air tube about the glottis may be freely explored without causing any irritation, whereas it is the reverse in the direction towards the bronchi." In this case, the introduction of the probe upwards caused very decided irritation.

On arriving at his house, I found the little patient (about five years of age) breathing with great difficulty, and distressed every few minutes with violent fits of spasmodic cough very much like croup. He had been playing with several grains of corn in the mouth the preceding evening about sundown, when he was suddenly seized with the cough. This had continued through the night, accompanied with difficult respiration, which had gradually increased to a degree that was truly distressing to witness when I saw him. Different efforts had been made by the physician in attendance with emetics, and by placing the head downwards, to expel the foreign body which, from his appearance and symptoms, I was at once satisfied had fallen into the windpipe; and from their urgency I decided on opening it without delay. An incision about one inch and a half in length was made over the trachea, which, commencing a little above the cricoid cartilage, was extended downwards in the median line nearly to the sternum. The neck was very fat and short, the little patient having frequently been attacked with croup, and the trachea was consequently at a greater depth than usual from the surface; and I may here remark that I have found the operation of tracheotomy, though simple in the adult, to be attended with much more difficulty in a young child of much *embonpoint.*

There was considerable hemorrhage as the incision was deepened, and I found it necessary to tie an arterial branch which poured out blood quite freely; and then, by holding a small piece of sponge for a few moments in the wound, the oozing, which was principally venous, was soon completely arrested. The trachea was found to be very tender, and the child evinced much suffering whenever it was touched with the finger. The foreign substance could now be distinctly heard and felt to strike against it, and with considerable force, at every expiration. The point at which this occurred was uniformly the same, and just below the cricoid cartilage, and I therefore decided to make the opening at that point instead of dividing the crico-thyroid membrane. Upon cutting three or four rings of the trachea, the corn could be plainly seen to approach the opening at every expiration, descending alternately during inspiration, thus playing continually up and down. I several times attempted to seize it with the forceps as it flew upwards, and also to dislodge it by dilating the wound; but, failing in this, a curved probe was introduced, with which it was suddenly caught and detained in its ascent until extracted.

The relief was instantaneous, and, after taking a few swallows of water, the little patient fell into a sound sleep. The edges of the wound were brought together with two fine sutures and a strip of adhesive plaster. Union by the first intention followed, and in a week he was as well as usual.

CASE V.—*Large Foreign Bodies in the Knee-Joint—Removal by Opening the Articulation.*—Tabler, aged 51, entered the Washington Infirmary in October, 1845. The left knee-joint is very much enlarged, the capsule being greatly distended by the synovial fluid, and two very large movable bodies can easily be detected floating in it. These bodies, on examination, appear to be very hard, and they can be made to pass and repass from one side of the joint to the other by slight pressure. The motions of the articulation are almost entirely suspended. He can flex it very slightly, but the effort to do this is attended with considerable pain.

The patient says that he accidentally opened the joint thirty-five years since with a hatchet, near the upper and outer side of the patella, and that a portion of the synovial fluid escaped through the wound. He also injured the joint, at twenty years of age, in jumping over a snow-bank, and was unable the next day to move it without occasioning great pain from one of the foreign bodies getting under the knee-pan. It was at this period that he discovered for the first time that there was something loose in the joint. There seemed then to be but one, and that about the size of a grain of corn. Ever since, the joint has been subject at different periods to become very much distended and painful from accumulation of the synovia. This was generally the result of some injury or fatigue of the joint, for, when kept quiet, the swelling and pain would disappear.

Since February last, he thinks the bodies have increased considerably in size.

He was made aware of the risk in opening the articulation to the extent that would be necessary to extract substances so large as these evidently were; but he manifested a perfect willingness to submit to an operation, as the functions of the limb were rendered entirely useless by the foreign growths in the joint, and the suffering produced by them at times, as has been stated, very acute.

Previous to their removal, he was kept on low diet and in bed for a week, with the limb perfectly still. Leeches and cold fomentations were applied to the joint, and his bowels were well evacuated. Having taken these precautions, they were removed in the following way: Both were first brought to the inner side of the articulation, and held there by the fingers of the left hand being placed above them. The integuments were then drawn forcibly upwards by an assistant, and an incision one inch and a half long was made down to the capsule, the opening into which was made rather less than the external one. The largest substance was instantly slipped through it, and was followed by the smaller one, not more than a teaspoonful of the synovial fluid escaping with them. The upward traction of the integuments being removed as soon as the bodies passed out, the correspondence, or parallelism, between its wound and that of the capsule was, of course, destroyed, and the further escape of the fluid and the entrance of the air was thus guarded against. The wound was closely covered with adhesive plaster, and a compress soaked in cold water was placed around the joint. The limb was put in splints, the cold applications continued, and low diet still enjoined. Not the slightest pain or unpleasant symptoms followed the operation, and the wound united throughout by the first intention. The patient was allowed to use the limb gently at the end of a couple of weeks. He soon after returned to his home in Virginia, and gradually recovered the entire use of the joint.

The measurement and weight of the two bodies, made by my colleague, Prof. Miller, was as follows:—

The largest—length *two inches;* breadth *one inch and one-eighth;* thickness nearly *three-fourths of an inch;* weight 301 *grains.* The smallest—length *one inch and a half;* breadth *seven-eighths of an inch;* weight 175 *grains.*

They were very hard, being of osseous consistence. In shape, oval, convex on one side, and flat on the other. The surfaces of each presented a rough and irregular appearance, traversed by a number of smooth sulci or depressions.

They are still in my cabinet, and are the largest bodies that I have ever seen extracted from an articulating cavity.

On sawing through them longitudinally, the interior was found to be as white and almost as hard as ivory. In the largest there were a number of cells lined by a delicate epithelium. The cellular structure of the other was not so distinct, the cells being very fine. A laminated appearance also was evident in each.

CASE VI.—*Foreign Body in the Knee-Joint—Removal by Opening the Articulation.*—In August, ——, I was consulted by Dr. E., of this city, upon the propriety of removing from the knee-joint a foreign body that was detached and movable, and that occasioned him great inconvenience, and, at times, much pain.

In walking, the loose substance would often and suddenly slip between the heads of the bones or under the patella, producing great pain, and completely arresting locomotion for the time.

It could be detected, upon close examination, perfectly loose and floating about in the synovial fluid, which was but slightly increased in quantity.

I advised its removal; and after confining him to bed with the limb immovable for about a week, the joint was opened and the foreign body removed in the same way as in Case V. The same precautions were also observed after the operation, and the wound united by the first intention without any unpleasant symptom, and the function of the joint was, in a short time after, as perfect as ever.

In this case the formation was cartilaginous, and had every appearance of a portion of cartilage that had been detached from the articulating surface of one of the bones, being smooth and polished on one side, and rough as if by recent separation, and having osseous particles still adhering to it, on the other. It was rather less than an inch in length and a little over half an inch in breadth.

The process by which foreign bodies are formed in the articulations is a very disputed point, and has produced a great diversity of opinion. Their existence I believe is generally preceded by some violence or injury done to the joint; and it is, I think, most probable that they are not always formed in the same way, from the great difference that exists in their appearance and composition when examined. Laennec thinks that they are formed on the outer surface of the synovial membrane and, after a time, find their way into the cavity of the articulation; the synovial membrane yielding and forming an attachment or stem by which they are at first stationary, but that being subsequently detached by the motions of the part, they are found loose and floating in the synovia. Theden believes them to be, originally, glands of the joint detached by violence. John Hunter, that they are formed from a nucleus of extravasated blood which, in course of time, becomes organized. Reimarus that they are pieces of cartilage broken off. This also is the opinion of Monro. Bichât thinks that they are caused by an alteration of a part of the synovial membrane into cartilage. Whilst Schreger believes them to be concretions,—

> "The result of plastic matter deposited on the exterior, and either a new formation, which increases, according to the laws of elective attraction, from the unnaturally mixed synovia; or as incrustations, to which their lamellar structure upon a section through them leads, of which sometimes *coagula* of lymph, sometimes parts of the natural apparatus of the joint, form the base. Here also belong those bodies which, previously connected by a stem, have been detached, as after that the organic vegetation ceases, and their increase is subjected to the laws of general attraction, so that they are built up of homogeneous matter from the surrounding fluids of the joints."

This last view seems to me the most rational in regard to those bodies which are laminated and hard, as in Case V. Originating in all probability from a coagulum of lymph or blood, or having for a nucleus a portion of the cartilage of the joint, that may have been detached by violence, they go on gradually increasing and hardening from the successive layers of plastic matter deposited on their surface by the albumen or salts of the synovial fluid, as a vesical calculus is formed by the successive deposit of its concentric laminæ from the urine.

In Case VI. the appearance of the foreign body too plainly indicated it to be a portion of cartilage detached from some part of the articulating surface to admit of a doubt.

WASHINGTON, *October 30th*, 1851.

ART. VIII.—*The Typhus Fever, as it prevailed at the Baltimore Almshouse during the Winter of* 1850–51, *with Clinical Observations.* By JAMES WYNNE, M. D.

THE identity of, or difference between, typhoid and typhus fever has occupied a large share of the attention of medical men for a number of years; yet, although much has been written, and many facts have been collected, for the purpose of elucidating the subject, it still remains a disputed and debatable question, in which a large share of talent is arrayed upon either side. It is not my purpose to enter into this discussion upon mere theoretical grounds, but to offer some facts connected with the appearance of typhus fever, as it prevailed at the Baltimore Almshouse during the last winter, as a feeble mite contributed to the solution of the inquiry. I have been induced to contribute this small offering more freely, because it appears to me that the only mode of determining the question is by the accurate account of a number of carefully observed epidemics, in which the characteristics of the disease during life, and the appearances presented after death, are observed with judgment and noted with precision.

A febrile affection, presenting a certain set of phenomena and organic lesions, prevails in the British islands, and is accurately described by English writers under the appellation of typhus fever. A febrile affection, presenting another set of phenomena and organic lesions, exists on the Continent of Europe, and is likewise described with great precision by Continental writers, and more especially by those of France, under the name of Dothinenteritis, or typhoid fever. These diseases, presenting characteristic differences in their respective localities, assimilate, in some respects, so nearly to each other as to lead to the belief that they are one and the same disease, and only present the different peculiarities, noticed by English and Continental writers, under the influence of locality, climate, temperature, and other concomitant circumstances.